Claims

What is claimed is:

1. A check valve comprising:

a body configured to permit fluid to flow therethrough, said body including a flange extending circumferentially around an inner periphery of the body, the flange having an inner surface defining a valve aperture; and

a poppet valve moveably mounted within the valve aperture, said poppet valve including a longitudinal axis, a head and a plurality of guide legs extending from the head and through the valve aperture, each of the plurality of guide legs including an outer peripheral surface facing the inner surface of the flange, the outer peripheral surface including a first section and a second section, wherein the second section is recessed back from the first section in relation to the inner surface of the flange.

2. The check valve of claim 1, wherein the second section of the outer peripheral surface is spaced at a greater distance along the longitudinal axis away from the head than the first section of the outer peripheral surface.

3. The check valve of claim 1, wherein outer edges of the first and second sections of the outer peripheral surfaces are rounded.

4. The check valve of claim 1, wherein the second section of the outer peripheral surface forms a flow path with the inner surface of the flange to permit debris to pass between the second section and the inner surface of the flange while the valve is in an open position.

5. The check valve of claim 1, wherein the outer peripheral surface includes a third section extending longitudinal along a center portion of the outer peripheral surface of the guide leg, wherein the third section is at a same radial distance from the longitudinal axis as the first section.

6. The check valve of claim 1, wherein the first section is in close proximity to the inner surface of the flange to aid in guiding the poppet valve in the valve aperture during operation.

7. The check valve of claim 1, wherein the first section includes a diameter formed on an arc of a circle having a diameter slightly less than a diameter of the valve aperture.

8. A check valve comprising:

a body configured to permit fluid to flow therethrough, said body including a flange extending circumferentially around the inner periphery of the body, the flange having an inner surface defining a valve aperture; and

a poppet valve moveably mounted within the valve aperture, said poppet valve including a longitudinal axis, a head and a plurality of guide legs extending from the head through the valve aperture, each of the plurality of guide legs including an outer peripheral surface facing the inner surface of the flange, the outer peripheral surface including a first section spaced at a first radial distance from the longitudinal axis and a second section spaced at a second radial distance from the longitudinal axis to allow debris to pass between the second section and the inner surface of the flange while the valve is in an open position, wherein the first radial distance is greater than the second radial distance.

9. The check valve of claim 8, wherein the second section of the outer peripheral surface is spaced at a greater distance away from the head than the first outer peripheral surface.

10. The check valve of claim 8, wherein outer edges of the first and second sections of the outer peripheral surfaces are rounded.

11. The check valve of claim 8, wherein the second section of the outer peripheral surface forms a flow path with the inner surface of the flange to allow debris to pass therebetween.

12. The check valve of claim 8, wherein the outer peripheral surfaces includes a third section extending longitudinal along a center portion of the outer peripheral surface of the guide leg, wherein the third section is at the same radial distance from the longitudinal axis as the first section.

13. The check valve of claim 9, wherein the first section is in close proximity to the inner surface of the flange to aid in guiding the poppet valve in the valve aperture during operation.

14. The check valve of claim 9, wherein the first section includes a diameter formed on an arc of a circle having a diameter slightly less than a diameter of the valve aperture.

15. A check valve comprising:

a body configured to permit fluid to flow therethrough, said body including a head and a flange extending from the head and circumferentially around the inner periphery of the body, the flange having an inner surface defining a valve aperture; and

a poppet valve moveably mounted within the valve aperture, said poppet valve including a longitudinal axis, a head and a plurality of guide legs extending through the valve aperture, each of the plurality of guide legs including an outer peripheral surface facing the inner surface of the flange, wherein a flow path is defined between a section of the outer peripheral surface and the inner surface of the flange while said poppet valve is in an open position to allow for debris to pass between the outer peripheral surfaces and the inner surface of the flange.

16. The check valve of claim 15, wherein the flow path is defined longitudinally along the guide legs at a distance from the head of the poppet valve.

17. The check valve of claim 15, wherein a second section of the outer peripheral surfaces of the guide legs is in close proximity to the inner surface of the flange to aid in guiding the poppet valve during operation.

18. The check valve of claim 16, wherein the section defining the flow path with the inner surface of the flange is at a smaller radial distance from the longitudinal axis of the poppet valve than the second section.

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